July 5, 1938. C. R. BLACK 2,122,833

DISPLAY RACK

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Fig. 1.

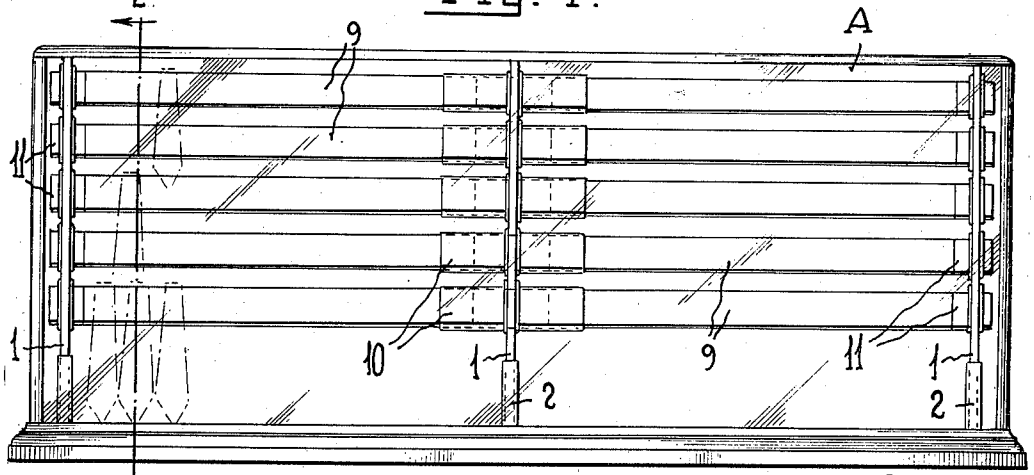


Fig. 2.

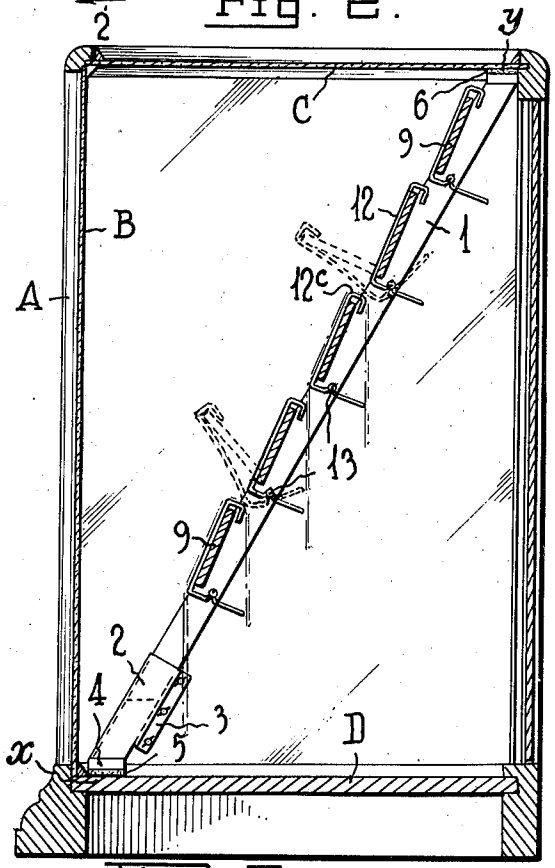


Fig. 3.

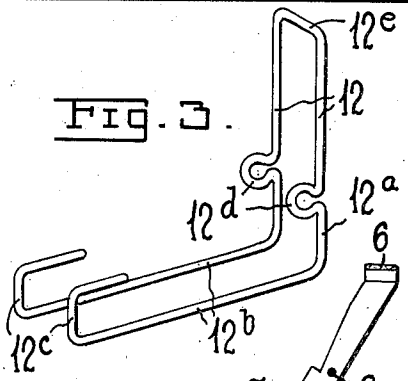


Fig. 4.

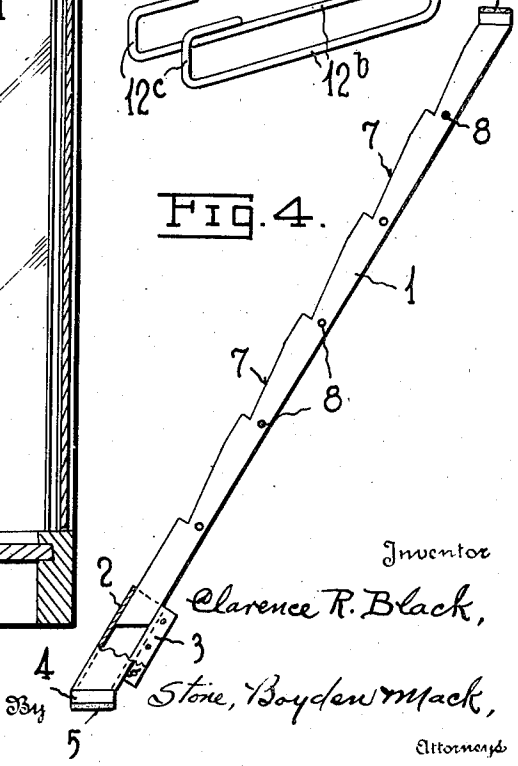
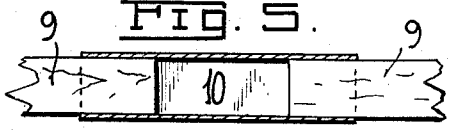


Fig. 5.



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Fig. 6.

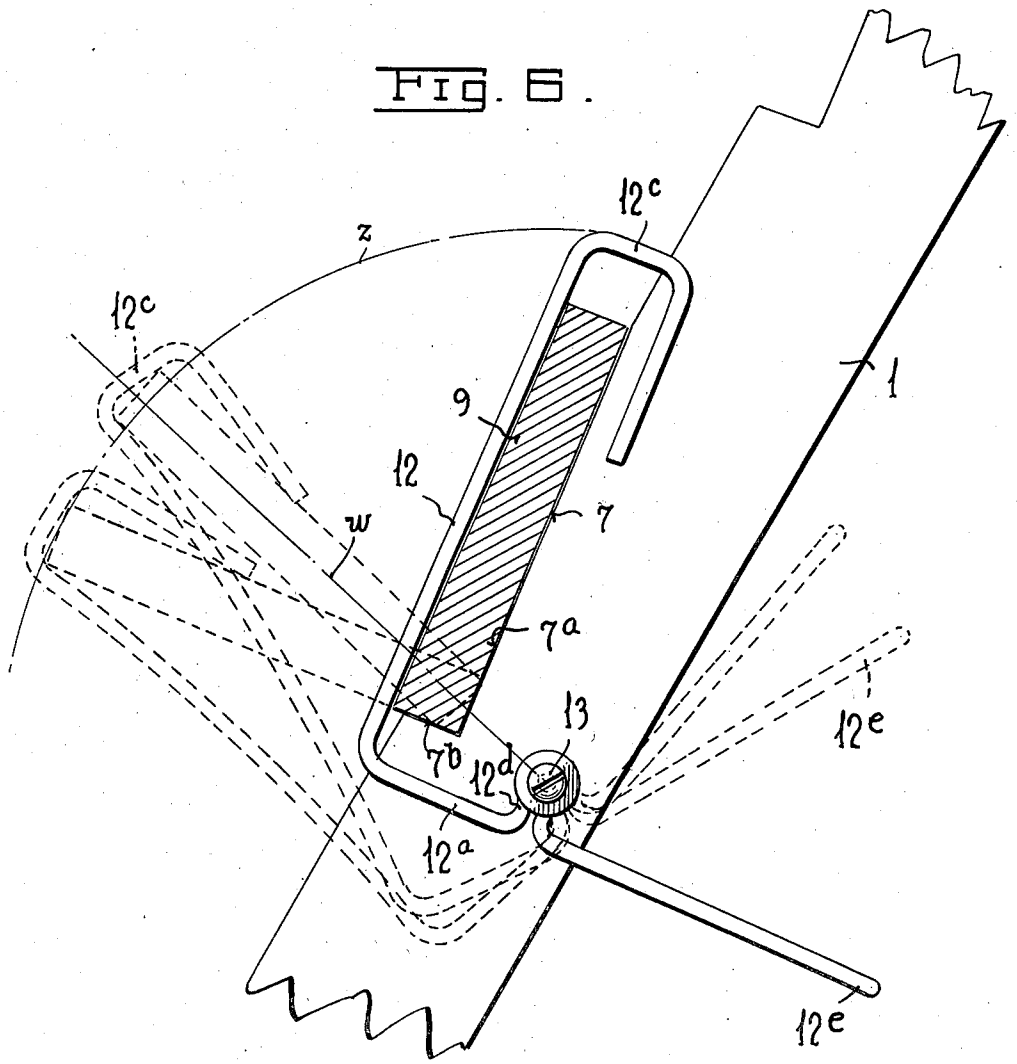
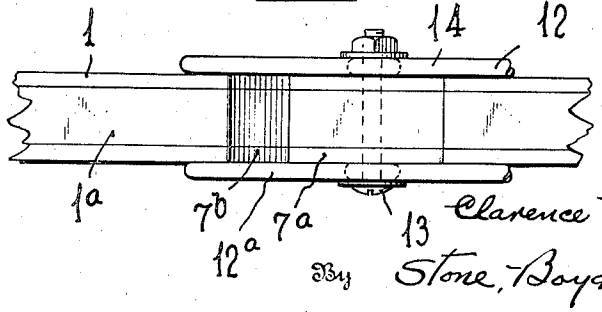


Fig. 7.



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Patented July 5, 1938 2,122,833

UNITED STATES PATENT OFFICE

2,122,833

DISPLAY RACK

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Application July 1, 1937, Serial No. 151,504

7 Claims. (Cl. 211—150)

This invention relates to display racks and more particularly to racks designed especially for use inside of show cases for displaying small articles of clothing such as neckties, socks, hose, etc.

One object of the invention is to provide a display rack which is adjustable both in height and length so that it may be adjusted to snugly fit within show cases varying considerably in size.

Another object is to devise a display rack comprising horizontal bars of relatively wide, thin configuration, and to so mount these bars that they may be rotated about one edge to different angular positions, and retained in such positions.

A still further object of the invention is to devise improved means for maintaining the bars in adjusted position, such means comprising a resilient hook member.

In order that the invention may be readily understood, reference is had to the accompanying drawings forming part of this specification, and in which:

Fig. 1 is a front elevation of a show case illustrating my improved display rack mounted therein;

Fig. 2 is a transverse section substantially on the line 2—2 of Fig. 1 looking in the direction of the arrows;

Fig. 3 is a perspective view of the improved hook member;

Fig. 4 is a side elevation of one of the supporting beams which I employ;

Fig. 5 is a fragmentary sectional elevation showing the means whereby the bars may be adjusted in length;

Fig. 6 is a fragmentary sectional elevation on an enlarged scale showing in detail the manner in which the bars may be adjusted to different positions; and

Fig. 7 is a fragmentary edge view on an enlarged scale showing the pivot for the hook member and certain details of the supporting beam.

Referring to the drawings in detail, I have illustrated a show case of rectangular form designated in its entirety by the reference character A and comprising the usual front and top transparent panels B and C. The show case also has the usual floor D.

My improved display rack comprises a plurality of similar supporting members or beams 1, three of such beams being shown, one at each end and one in the middle of the show case. To the lower end of each beam is fitted a sheet metal sleeve 2 having at one side clamping flanges 3 secured together in any suitable manner as for example by bolts and wing nuts, so that the sleeve may be telescoped over the end of the beam 1 to any desired extent and secured in adjusted position. The lower end of the sleeve 2 carries a foot 4 disposed at an angle thereto, and provided on its bottom surface with a pad 5 of felt or the like. A similar pad 6 is mounted on the upper end of the beam 1.

It will be understood that when in use, the beams 1 occupy an inclined position, as shown in Fig. 2, the pads 5 and 6 being mounted in a horizontal position and in parallel relation.

By reference to Fig. 2, it will be seen that the beams 1 extend diagonally across the show case from the lower front corner x to the upper rear corner y and in practice the sleeves 2 will be so adjusted that the pads 5 and 6 fit snugly against the bottom and top of the show case respectively and thus maintain the beams in position, without any other fastening means.

The three beams are disposed in a common inclined plane and each is provided in its front face with a series of notches 7. These notches, as shown in Fig. 6, comprise a relatively long slightly inclined side 7^a and a relatively short side 7^b formed at right angles to the side 7^a.

Extending across and between the bearing members or beams 1 and resting in the notches 7 are a series of bars 9, each of which, as clearly shown in Figs. 2 and 6, is of relatively wide thin configuration. The lower edge of each of these bars rests upon one of the slides 7^b of the notches 7, while the wide face rests upon the side 7^a, as shown in Fig. 6.

In order to adapt these bars for use in show cases of different lengths, I preferably make them adjustable. This is accomplished by making each bar in two sections and connecting these sections by a sheet metal sleeve 10 into which the bar sections slidably fit. It will thus be apparent that the bar sections may be inserted to a greater or less extent into these sleeves 10, and thus the overall length of the bar may be adjusted as desired. Preferably each end of the bars where they rest in the notches are also provided with sheet metal sleeves or caps 11, in order to better withstand the wear.

In Figs. 2 and 6, these sleeves and caps have been omitted for the sake of clearness.

Also in order to protect the beams 1 from excessive wear, the front face thereof is preferably provided with a metal strip 1^a, as shown

in Fig. 7, this strip following around the contour of the notches. Thus at every point of engagement between the bars and beams, there is a metal to metal contact.

Each of the bars 9 is rotatable about its lower edge into any one of several different angular positions, as illustrated in dotted lines in Figs. 2 and 6.

In order to hold the bars in these various angular positions, I have devised a novel hook member 12, shown in perspective in Fig. 3. This hook member is preferably made of one piece of resilient wire bent as shown. It consists of a pair of parallel elements unit by a loop 12e at one end. Each element comprises a relatively short arm 12a and a relatively long arm 12b disposed at substantial right angles to each other, the end of the long arm being reversely bent to form a hook 12c. Adjacent each short arm 12a the wire is bent to form an eye 12d, the two eyes being in alignment so that a pivot pin may be passed through them.

One of these hook members is provided for each notch in each beam, and the hook member is pivotally mounted on a bolt or pin 13, passing through a hole 8 in the beam 1 and secured in position by means of a suitable nut 14.

In one position of the parts as shown in full lines in Figs. 2 and 6, each bar 9 rests in the notches 7, with the hook member 12 engaged over it. There is, however, considerable clearance between the hook 12c and the upper edge of the bar in this position. The bar is maintained in this position by gravity.

When, however, the bar is rotated about its lower edge in the notch 7, its upper edge rapidly approaches the hook 12c and, when it reaches a position in which the plane of the bar passes through the pivot 13, as indicated by the broken line *w* in Fig. 6, the hook member will have been bent or stretched as shown in dotted lines in Fig. 6, the hook 12c bearing upon the upper edge of the bar and holding it under tension. It will be noted that the pivot point of each hook member 12 is offset transversely of the beam 1 from the lower edge of the notch 7. Thus, due to the eccentric relation between the pivot points of the bar and the hook member, the relative position of these parts is changed as the bar is rotated. The upper edge of the bar first engages the hook 12c and then forces this hook outwardly as the angular movement of the bar continues, thus tending to stretch or straighten the hook member at the angle between the elements 12a and 12b, and placing the same under tension. This will be readily understood by reference to the broken line *z* indicating the arc through which the end of the hook member would normally move. This arc is struck about the pivot 13 as a center, but it will be seen that when the bar reaches the first angular position, the outer end of the hook member has been forced by the bar 9 a considerable distance out beyond this arc. From the foregoing, it will be understood that as the bar is rotated, the hook member is placed under tension, and that this tension reaches a maximum at the first dotted line position, in which the plane of the bar passes through the pivot 13, as shown by the broken line *w*. When in this position, the bar is resiliently held in equilibrium by the tension of the hook member, and will remain in such position.

It is also possible to rotate the bar 9 still further into the second dotted line position, in which the lower portion of its side face rests against the shoulder 7b of the notch 7, while its edge rests squarely against the side 7a of such notch. In this position, it will be seen that the hook member 12 is still under tension and thus serves to maintain the bar in such position.

To summarize, therefore, it will be seen that each of the bars may occupy three different angular positions, the bars being held in the first position by gravity and in the other two positions by the tension of the resilient hook member. It will also be noted that the first and last positions of the bar are approximately 90° apart.

The advantage of being able to rotate the bars 9 about their lower edges and maintain them in different angular positions as described, is that the ties or hosiery supported thereby may be presented to the customer's view at a different angle, thus causing the light to produce different effects on the merchandise. Swinging the bars out to the third position also greatly facilitates placing the articles in position thereon.

It will thus be seen that I have provided a very simple and effective rack for displaying various small articles of clothing in an attractive manner, and it is thought that the many advantages of the invention will be readily appreciated by those familiar with such matters.

What I claim is:

1. A display rack comprising a plurality of spaced inclined beams disposed in a common plane and having a series of notches in their upper surfaces, each notch having a shoulder at its lower end, a series of relatively thin and wide horizontal bars extending across said beams and supported in said notches by one edge engaging said shoulder, said bars being rotatable about said edge, and means carried by said beams for maintaining each of said bars in any one of a plurality of different angular positions with respect to said beams.

2. A display rack comprising a plurality of spaced inclined beams disposed in a common plane and having a series of notches in their upper surfaces, each notch having a shoulder at its lower end, a series of relatively thin and wide horizontal bars extending across said beams and supported in said notches against said shoulder, said bars being rotatable in said notches about one edge, and resilient means connected with said beams for maintaining each of said bars in any one of a plurality of different angular positions with respect to said beams.

3. In a display rack, the combination with a pair of supporting beams having notches in one face, of a relatively wide and thin bar carried in corresponding notches of both beams and rotatable therein about one edge, and a resilient hook member engaging the other edge of said bar and pivotally mounted on each beam, the pivotal point of said hook members being eccentric to the edge of the bar which rests in said notches, whereby, as said bar is rotated, the tension on said resilient hook is increased.

4. In a display rack, the combination with a pair of supporting beams having notches in one face, of a relatively wide and thin bar carried in corresponding notches of both beams and rotatable therein about one edge, and a resilient hook member engaging the other edge of said bar and pivotally mounted on each beam, the pivotal point of said hook members being displaced transversely of the beam from said notch, whereby, when said bar is rotated, a tension is created which increases to a maximum at the point where the plane of the bar passes through the

hook pivots, at which point the bar is held in equilibrium.

5. In a display rack, the combination with a pair of supporting beams having notches in one face, of a relatively wide and thin bar carried in corresponding notches of both beams and rotatable therein about one edge, and a resilient hook member having a portion engaging the other edge of said bar and having another portion disposed at substantial right angles to the first and pivotally mounted on one of said beams at a point displaced transversely of the beam from said notch, whereby, as said bar is rotated, it reaches a position in which its plane passes through said pivot.

6. In a display rack, a pair of beams having notches in one face, each notch having two sides disposed at substantial right angles, a relatively wide, thin bar extending between said beams and having a square edge resting in said notches, said bar being rotatable through approximately 90° and capable of remaining by gravity in one angular position, at one end of said 90° movement, and resilient means connected with at least one of said beams for holding said bar in a second angular position, at the other end of said 90° movement, and also in a third angular position intermediate the other two.

7. In a display rack, the combination with three parallel, spaced beams lying in the same plane and having notches in their upper face, of a series of bars extending across all of said beams and supported in said notches, each of said beams being extensible in length and comprising two sections and a sleeve into the opposite ends of which said sections telescope, said sleeve engaging a notch in the middle one of said beams.

CLARENCE R. BLACK.